

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		<b>ATTORNEY'S DOCKET NUMBER</b> <b>2590.0030002/EJH/UWJ</b>
		<b>U.S. APPLICATION NO. (If known, see 37 CFR 1.5)</b> <b>10/561,780</b>
INTERNATIONAL APPLICATION NO. PCT/EP2004/006698	INTERNATIONAL FILING DATE 21 June 2004 (21.06.04)	PRIORITY DATE CLAIMED 20 June 2003 (20.06.03)
TITLE OF INVENTION <b>Tissue Modeling In Embryonic Stem (ES) Cell System</b>		
APPLICANT(S) FOR DO/EO/US <b>Eugene KOLOSSOV et al.</b>		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<p>1. <input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371.</p> <p>2. <input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input type="checkbox"/> The US has been elected (Article 31).</p> <p>5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))           <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ul> </p> <p>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2))           <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ul> </p> <p>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))           <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input type="checkbox"/> have not been made and will not be made.</li> </ul> </p> <p>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>		
<p><b>Items 11 to 20 below concern document(s) or information included:</b></p> <p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input type="checkbox"/> A preliminary amendment.</p> <p>14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input type="checkbox"/> A power of attorney and/or change of address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.</p> <p>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</p>		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/561,780	INTERNATIONAL APPLICATION NO. PCT/EP2004/006698	ATTORNEY'S DOCKET NUMBER 2590.0030002/EJH/UWJ																																																																																																								
20. Other items or information:																																																																																																										
<p>The following fees have been submitted</p> <table border="1"> <tr> <td>21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....</td> <td>\$300</td> <td>CALCULATIONS</td> <td>PTO USE ONLY</td> </tr> <tr> <td>22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c))</td> <td></td> <td>\$</td> <td></td> </tr> <tr> <td>If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....</td> <td>\$0</td> <td>\$</td> <td></td> </tr> <tr> <td>All other situations.....</td> <td>\$200</td> <td></td> <td></td> </tr> <tr> <td>23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....</td> <td>\$0</td> <td>\$</td> <td></td> </tr> <tr> <td>Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....</td> <td>\$100</td> <td></td> <td></td> </tr> <tr> <td>International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....</td> <td>\$400</td> <td></td> <td></td> </tr> <tr> <td>All other situations.....</td> <td>\$500</td> <td></td> <td></td> </tr> <tr> <td colspan="2"><b>TOTAL OF 21, 22 and 23 =</b></td> <td colspan="2">0</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.</td> <td colspan="2">\$</td> </tr> <tr> <td>Total Sheets</td> <td>Extra Sheets</td> <td>Number of each additional 50 or fraction thereof (round up to a whole number)</td> <td>RATE</td> </tr> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td>x \$250</td> </tr> <tr> <td colspan="4">Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).</td> </tr> <tr> <td>CLAIMS</td> <td>NUMBER FILED</td> <td>NUMBER EXTRA</td> <td>RATE</td> </tr> <tr> <td>Total claims</td> <td>- 20 =</td> <td></td> <td>x \$ 50</td> </tr> <tr> <td>Independent claims</td> <td>- 3 =</td> <td></td> <td>x \$200</td> </tr> <tr> <td colspan="2">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td>+ \$360</td> <td>\$</td> </tr> <tr> <td colspan="2"></td> <td><b>TOTAL OF ABOVE CALCULATIONS =</b></td> <td>0</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.</td> <td colspan="2">\$</td> </tr> <tr> <td colspan="2"></td> <td><b>SUBTOTAL =</b></td> <td>0</td> </tr> <tr> <td colspan="2">Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).</td> <td>+ \$</td> <td>\$</td> </tr> <tr> <td colspan="2"></td> <td><b>TOTAL NATIONAL FEE =</b></td> <td>0</td> </tr> <tr> <td colspan="2">Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property</td> <td>+ \$</td> <td>\$</td> </tr> <tr> <td colspan="2"></td> <td><b>TOTAL FEES ENCLOSED =</b></td> <td>0</td> </tr> <tr> <td colspan="2"></td> <td>Amount to be refunded:</td> <td>\$</td> </tr> <tr> <td colspan="2"></td> <td>Amount to be charged</td> <td>\$</td> </tr> </table>			21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....	\$300	CALCULATIONS	PTO USE ONLY	22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c))		\$		If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....	\$0	\$		All other situations.....	\$200			23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....	\$0	\$		Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....	\$100			International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....	\$400			All other situations.....	\$500			<b>TOTAL OF 21, 22 and 23 =</b>		0		<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.		\$		Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE	- 100 =	/50 =		x \$250	Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).				CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total claims	- 20 =		x \$ 50	Independent claims	- 3 =		x \$200	MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+ \$360	\$			<b>TOTAL OF ABOVE CALCULATIONS =</b>	0	<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.		\$				<b>SUBTOTAL =</b>	0	Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).		+ \$	\$			<b>TOTAL NATIONAL FEE =</b>	0	Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		+ \$	\$			<b>TOTAL FEES ENCLOSED =</b>	0			Amount to be refunded:	\$			Amount to be charged	\$
21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....	\$300	CALCULATIONS	PTO USE ONLY																																																																																																							
22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c))		\$																																																																																																								
If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....	\$0	\$																																																																																																								
All other situations.....	\$200																																																																																																									
23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....	\$0	\$																																																																																																								
Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....	\$100																																																																																																									
International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....	\$400																																																																																																									
All other situations.....	\$500																																																																																																									
<b>TOTAL OF 21, 22 and 23 =</b>		0																																																																																																								
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.		\$																																																																																																								
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE																																																																																																							
- 100 =	/50 =		x \$250																																																																																																							
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).																																																																																																										
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE																																																																																																							
Total claims	- 20 =		x \$ 50																																																																																																							
Independent claims	- 3 =		x \$200																																																																																																							
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+ \$360	\$																																																																																																							
		<b>TOTAL OF ABOVE CALCULATIONS =</b>	0																																																																																																							
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.		\$																																																																																																								
		<b>SUBTOTAL =</b>	0																																																																																																							
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).		+ \$	\$																																																																																																							
		<b>TOTAL NATIONAL FEE =</b>	0																																																																																																							
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		+ \$	\$																																																																																																							
		<b>TOTAL FEES ENCLOSED =</b>	0																																																																																																							
		Amount to be refunded:	\$																																																																																																							
		Amount to be charged	\$																																																																																																							

- a.  A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.
- b.  Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c.  The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-0036. A duplicate copy of this sheet is enclosed.
- d.  Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038. The PTO-2038 should only be mailed or faxed to the USPTO. However, when paying the basic national fee, the PTO-2038 may NOT be faxed to the USPTO.

**ADVISORY:** If filing by EFS-Web, do **NOT** attach the PTO-2038 form as a PDF along with your EFS-Web submission. Please be advised that this is **not** recommended and by doing so your **credit card information may be displayed via PAIR**. To protect your information, it is recommended paying fees online by using the electronic payment method.

**NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.**

SEND ALL CORRESPONDENCE TO:

CUSTOMER NUMBER 26111  
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



SIGNATURE  
Ulrike Winkler Jenks  
NAME  
59,044  
REGISTRATION NUMBER

**Declaration for Patent Application**

Docket Number: 2590.0030002/EJH/UWJ

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter that is claimed and for which a patent is sought on the invention entitled **Tissue Modeling In Embryonic Stem (ES) Cell System**, the specification of which is attached hereto unless the following box is checked:

- was filed as United States Application Number 10/561,780; which is a National Phase entry of International Application Number PCT/EP04/06698; I.A. filed June 21, 2004.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or (f) or § 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or § 365(a) of any PCT international application, which designated at least one country other than the United States of America, listed below, and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or PCT international application having a filing date before that of the application on which priority is claimed.

## Prior Foreign Applications(s):

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Priority Claimed	

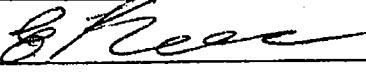
03013980.2 (Application No.)	Europe (Country)	20 June 2003 (Day/Month/Year Filed)
---------------------------------	---------------------	---

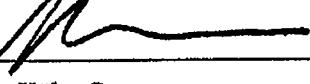
Send Correspondence to: Customer No. 26111  
 STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
 1100 New York Avenue, N.W.  
 Washington, D.C. 20005-3934

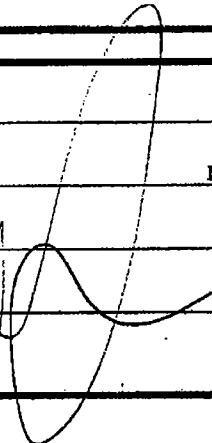
Direct Telephone Calls to: (202) 371-2600

Appl. No. 10/561,780  
 Docket No. 2590.0030002/EJH/UWJ

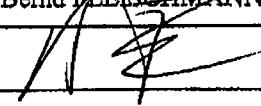
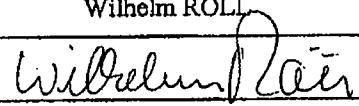
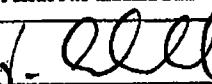
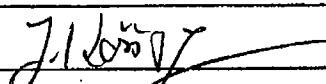
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first Inventor:	Eugen KOLOSSOV
Signature of first Inventor:	
Date:	27.06.07
Residence:	Köln, Germany
Citizenship:	Germany
Mailing Address:	Franz-Hitze-Strasse 1 50672 Köln, Germany

Full name of second Inventor:	Jürgen HESCHELER
Signature of second Inventor:	
Date:	15.06.07
Residence:	Köln, Germany
Citizenship:	Germany
Mailing Address:	Eckdorfer Strasse 7 50698 Köln, Germany

Full name of third Inventor:	Heribert BOHLEN
Signature of third Inventor:	
Date:	27.06.07
Residence:	Köln, Germany
Citizenship:	Germany
Mailing Address:	Auerstrasse 4 50733 Köln, Germany

Appl. No. 10/561,780  
 Docket No. 2590.0030002/EJH/UWT

Full name of fourth Inventor:	Bernd FLEISCHMANN
Signature of fourth Inventor:	
Date:	15.3.07
Residence:	Bonn - Köln, Germany
Citizenship:	Germany
Mailing Address:	Heinrich-EIS-Str. 13 53127 BONN, Germany
Full name of fifth Inventor:	Wilhelm RÖLL
Signature of fifth Inventor:	
Date:	05/29/2007
Residence:	Köln, Germany
Citizenship:	Germany
Mailing Address:	Lützenstrasse 140 53129 Bonn, Germany
Full name of sixth Inventor:	Andreas EHLICH
Signature of sixth Inventor:	
Date:	27.6.02
Residence:	Mechernich, Germany
Citizenship:	Germany
Mailing Address:	Johannesweg 35 53894 Mechernich, Germany
Full name of seventh Inventor:	Jessica KÖNIGSMANN
Signature of seventh Inventor:	
Date:	06/06/2007
Residence:	Berlin, Germany
Citizenship:	Germany
Mailing Address:	Graefestra. 2 10967 Berlin, Germany

658481\_1.DOC